

## **REMARKS**

### **Claim Status**

Claim 14 is currently amended, claims 16-17 are canceled without prejudice or disclaimer, and claims 30-31 are new. New claims 30-31 are supported by, for example, original claim 14 and throughout the specification, for instance, at paragraph numbers 0015-0016. No new matter has been added. Accordingly, claims 14, 15, 18, and 29-31 are pending and should be examined.

### **Examiner Interview Summary**

Applicants thank Examiner Pak for helpful discussions during the interviews of May 2 and May 18, 2006. During both interviews, Applicants and Examiner Pak discussed the Section 112 and Section 103 rejections of record, the details of which are reflected in the response below. Notably, Examiner Pak agreed to reconsider her position regarding “substantially intact oil bodies” and the cited Section 103 references. Applicants suggested language to clarify the examiner’s Section 112 concerns, too.

### **Rejections under 35 U.S.C. § 112 (indefiniteness)**

Claims 14-18 and 29 stand rejected because the examiner feels that “substantially intact oil bodies” is unclear. Office Action, pages 3-4. During the May 2<sup>nd</sup> interview, applicants directed the examiner’s attention to the definition in the specification of “substantially intact oil bodies” as “oil bodies that have not released greater than 50% (v/v) of their seed oil content in the form of free oil.” See page 12, lines 15-17. Additionally, applicants highlighted pages 17, line 10 through page 23, line 26, detailing methods for preparing substantially intact oil bodies. Applicants emphasized that substantially intact oil bodies occur naturally in plant cells and the disclosed methods provide substantially intact oil bodies without requiring the separation of non-intact oil bodies. Examiner Pak agreed to reconsider her position.

Claims 14-18 and 29 are rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness because the language “capable of regulating transcription” and “capable of terminating transcription” is unclear. Office Action, page 5. Following discussions during the May 2<sup>nd</sup> interview, the present version of claim 14 clarifies that the polynucleotides regulate transcription and termination. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claims 14-18 and 29 are rejected for alleged indefiniteness because the phrase “conditions to permit expression” is deemed unclear. Office Action, page 5. The present version of claim 14 avoids the examiner’s concerns, and therefore, applicants respectfully request that the rejection be withdrawn.

Claims 14-18 and 29 also are rejected because of the examiner’s concern for the phrase “sufficient portion to provide targeting to an oil body.” Office Action, page 5-6. In order to expedite prosecution, claim 14 has been amended to clarify that the first nucleic acid sequence encodes at least the central domain of an oil body protein to provide targeting to the lipid phase of an oil body. This amendment is supported throughout the specification, for example, at page 50, line 23, to page 51, line 1, which refers to the central domain of an oil body protein. Because the present version of the claim avoids the examiner’s concerns, applicants respectfully request that the rejection be withdrawn.

The examiner has rejected claims 14-18 and 29 as well because she believes that the phrase “oil body protein” is unclear and uncommon in the art. Office Action, page 6. Applicants respectfully traverse this rejection because a skilled artisan would understand that oil body proteins are proteins associated with oil bodies. For instance, see USPN 5,650,554 (Moloney *et al.*), which is incorporated by reference, at column 3, lines 5-55. Because the term has a clear and definite meaning, applicants respectfully request that the rejection be withdrawn.

**Rejections under 35 U.S.C. § 112 (written description)**

Claims 14-18 and 29 are rejected under 35 U.S.C. § 112, first paragraph, for alleged lack of written description. Office Action, pages 7-8. Specifically, the PTO alleges that “substantially intact oil bodies” were not described in the specification.” *Id.* During the May 2<sup>nd</sup> interview, Examiner Pak acknowledged the definition of “substantially intact oil bodies” (See specification, page 12, lines 15 -19) and she agreed to reconsider her position. Accordingly, applicants request that the rejection be withdrawn.

Claims 14-18 and 29 are rejected under 35 U.S.C. § 112, first paragraph, for alleged lack of written description. Office Action, pages 8-9. Specifically, the PTO alleges lack of written support for representative species of oil body proteins, thioredoxin, and thioredoxin reductase. During the interview, oil body proteins, thioredoxin, thioredoxin reductase proteins, and variants and mutants were discussed. Examiner Pak acknowledged that the as-filed specification provides ample and sufficient description of these molecules and she further acknowledged that thioredoxin, in particular, is an art recognized molecule. In view of these discussions, applicants respectfully request that the rejection be withdrawn.

**Rejections under 35 U.S.C. § 112 (enablement)**

Claims 14-18 and 29 are rejected under 35 U.S.C. § 112, first paragraph, for alleged lack of enablement. Office Action, pages 10-14. Specifically, the PTO alleges that, while the specification is enabling for preparing an emulsion by transforming an *Arabidopsis* host cell, the specification lacks enablement for any plant host cell. As discussed during the May 16<sup>th</sup> interview, presently amended claim 14 clarifies that a recipient host cell comprises oil bodies and is selected from the enumerated list of plant cells. Support for this amendment can be found, for example, at page 17, line 10 thru page 18, line 22.

**Rejections under 35 U.S.C. § 103(a)**

Claims 14-16, 18, and 29 are rejected under 35 U.S.C. § 103 (a) as allegedly unpatentable over Moloney *et al.*, Wiele *et al.*, and Owen *et al.* Office Action, pages 14-17. Applicants respectfully traverse the grounds for this rejection.

By way of background, the claims were previously rejected in view of Moloney *et al.* Wieles *et al.*, and Voultoury *et al.* Both examiner and applicants agreed that Voultoury *et al.* is the only reference of record that discloses emulsions prepared from oil bodies. That is, neither Moloney *et al.* nor Wieles *et al.* disclose methods for preparing emulsions from oil bodies. However, in stark contrast with the present invention, Voultoury *et al.* discloses emulsions comprising crushed, or non-intact oil bodies. Because Examiner Pak agreed that Voultoury *et al.* teaches crushed oil bodies, she replaced Voultoury *et al.* with Owen *et al.*

During the May 2<sup>nd</sup> interview, applicants directed the examiner to the fact that Owen *et al.* teaches micro emulsions, which are wholly different in nature from oil bodies. Because Owen *et al.* is directed to micro emulsions, it is not surprising that Owen *et al.* says nothing about oil bodies, let alone provide a method for preparing an emulsion with substantially intact oil bodies. If anything, it was reasoned that Owen *et al.* actually teaches away from the present invention because the emulsion of Owen *et al.* is formed by a process that is materially distinct from conventional emulsion formulation. That is, unlike the present invention, the emulsion of Owen *et al.* does not self-emulsify.

It follows, therefore, that the combination of Moloney *et al.*, Wieles *et al.*, and Owen *et al.* would not render the present invention obvious because none of the references, alone or in combination, teach or suggest emulsions prepared from oil bodies. Accordingly, applicants respectfully request that the rejection be withdrawn.

Claim 17 is rejected under 35 U.S.C. § 103 (a) as allegedly unpatentable over Moloney *et al.*, Wieles *et al.*, and Owen *et al.*, as applied to claims 14-16, 18 and 29 above and further in view of Hildebrand *et al.* Office Action, pages 14-18. Because claim 17 is canceled, the issue is rendered moot.

### CONCLUSION

As the above-presented remarks address and avoid each rejection presented by the Examiner, withdrawal of the rejections and allowance of the claims are respectfully requested. No new matter has been added.

If there are any questions concerning this application, the examiner is courteously invited to contact the undersigned counsel.

Respectfully submitted,

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By 

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